zBoost
extending cell zones

By Wi-Ex

zBoost SOHO Xtreme

YX545x User Guide

zBoost products have a 30-day money back guarantee when purchased directly from Wi-Ex®. If product is purchased from a reseller or third party, the purchaser is subject to the policies of the third party.

1 Year Manufacturer Warranty. Register at www.Wi-Ex.com

zBoost® SOHO Xtreme YX545x User Guide

About zBoost® from Wi-Ex®

Wi-Ex, **the leader** in cell phone signal boosters manufactures zBoost, the award-winning line of cell phone signal boosters that enhance the performance of your cell phone, smartphone and wireless data card.

Compatibility – Dual Band zBoosts are compatible with 800MHz and 1900MHz regardless of technology- including CDMA and GSM.

Patented technologies protect the carrier network.

1-year manufacturer warranty – register your product at **www.Wi-Ex.com**.

zBoost® products have more awards, more sales and more locations than all other signal boosters…COMBINED.

FCC Information

FCC ID: SO4YX545-PCS-CEL

Warning: Changes or modifications to this device not expressly approved by Wi-Ex® could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element (antenna) shall be installed such that a minimum separation distance of 20cm (8in) is maintained from all persons.

Industry Canada Regulations

IC ID: 5544A-YX545PCSCEL

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

RF Exposure: The manufacturer's rated output power of this equipment is for single carrier operation. For situations when multiple carrier signals are present, the rating would have to be reduced by 3.5 dB, especially where the output is re-radiated and can cause interference to adjacent band users. This power reduction is to be by means of input power or gain reduction and

not by an attenuator at the output of the device.

Cet appareillage numérique de la classe [B] répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.

Le fabricant nominale de la puissance de sortie de ce matériel est simple transporteur. Pour les situations lorsque plusieurs signauxporteurs sont présents, l'évaluation devrait être réduite de 3.5 dB, en particulier lorsque le signal de sortie est ré-émise et peut provoquer des interférences adjacentes à la bande utilisateurs. Ce pouvoir est de la réduction par le biais de la sortie d'alimentation ou la réduction de gain et non par un atténuateur à la sortie du dispositif.
Please note: This unit has been approved for use in Canada under RSS 131, however, consent for the use of this device to improve cellular or PCS coverage, must be obtained through your cellular or PCS provider, prior to placing the unit in operation. Please refer to the Industry Canada document CPC 2-1-05, Section 6.1 available or viewable at:
http://www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf08942e.html

Safety and Product Warranty Information

Copyright Notice

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Trademarks

Wireless Extenders, Wi-Ex, the Wi-Ex logo, zBoost, the zBoost logo and Extending Cell Zones are registered trademarks of Wireless Extenders, Inc.

Safety Guidelines

In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element (antenna) shall be positioned such that a minimum separation distance of 8 inches (20cm) is maintained between the radiating element and the user and/or general population.

Limited Liability

In no event shall Wireless Extenders be liable for any direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages, whether in an action under contract, negligence, or any other theory, arising out of or in connection with the set up of, use of, inability to use, or performance of the information, services, products, and materials available from this manual. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty last, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you.
For full warranty guidelines, see page 11.

Note

Changes or modifications not expressly approved by Wi-Ex® could void the user's authority to operate this equipment and/or void the product warranty.

Package Contents: zBoost SOHO Xtreme YX545x

Before you begin, make sure all of the following parts came with your zBoost SOHO Xtreme YX545x.

Literature Contents:

① Setup overview for zBoost® Xtreme YX545x

(User Guide online only)

Product Contents:

② zBoost Base Unit

③ Power Supply

④ Panel Antenna and RG-8x Cable

⑤ RG-6 Coax Cable 50 ft.

⑥ Signal Antenna and Mounting Hardware

Optional zBoost Accessories

The following accessories are available to improve signal reception and provide increased coverage in your home or office. Please see our website for complete selection.

To order, call 1-800-871-1612 or visit, www.Wi-Ex.com

Part #	Description
Most Popular Accessory for Xtreme YX545X:	
YX039-PCS-CEL	Bi-Directional receiving Signal Antenna upgrade (13 dBi PCS / 8 dBi CEL)
Other Accessories:	
YX012	Outside Grounding Kit
YX028-PCS-CEL	Directional transmitting window-mount Base Unit Antenna upgrade (9 dBi PCS / 6 dBi CEL)
YX030-15W	15 ft. Signal Antenna coax extension, low-loss RG-6
YX030-35W	35 ft. Signal Antenna coax extension cable, low-loss RG-6
YX031-10W	10 ft. Base Unit Antenna coax extension cable
YX030-08W	8” flat window entry cable
YX050-PCS-CEL	Omni-Directional transmitting ceiling-mount Base Unit Antenna (2 dBi PCS / 1 dBi CEL)

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Overview

Thank you for choosing zBoost. You will now be able to use your cell phone INSIDE your home or office. Gone are the days when you had to go to the window upstairs or walk outside to use your cell phone. Like a skylight that brings sunlight into your home, zBoost transports and amplifies the outdoor cellular signals into your home or office.

By following the easy instructions in this user guide, you will be Extending Cell Zones™ into your home or office.

Why Indoor Signals Can Be Weak

There are several obstacles that can contribute to the poor reception you receive in your home or office:

1. **Location of the Cell Phone Tower in Relation to Your Home/Office**

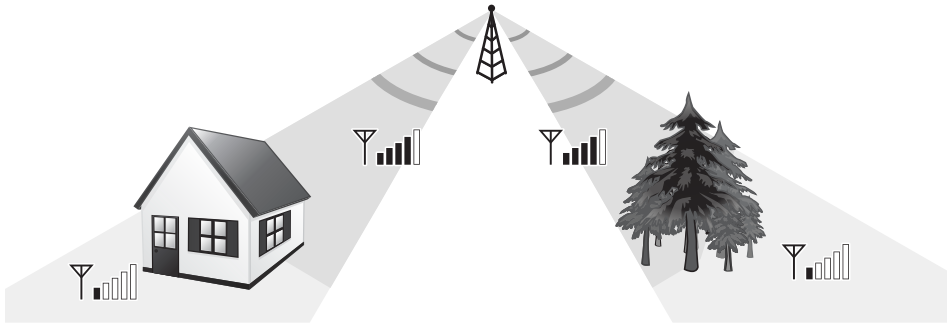
   While cell phone providers have tried to place cell phone towers to provide the best overall coverage, local ordinances and terrain features can impose restrictions on where these towers can be placed, thus, limiting the signal strength available at your location.

2. **Obstructions Caused by Buildings, Terrain and Trees**

   Cell phone signals can be completely blocked or reflected by buildings, walls, trees, hills and other terrain features resulting in low signal strength.

3. **Energy Efficient Windows**

   These new windows can also affect signal penetration into the house



Preparing to Set Up Your zBoost Product

Tools Needed

The following tools are needed to set up zBoost:

- #2 Phillips screwdriver
- Cellular phone operating in the band supported by your zBoost® unit
- Drill (may be required for outdoor or attic antenna placement)

Check for Signal Strength

Before placing a zBoost® in your home, make sure that you can place calls on the outside of your home, in the attic, at roof level or wherever you plan to place the signal antenna. zBoost® can only bring signal into your home when signal reaches the Signal Antenna. If there is no signal, the zBoost® will not work for you.

Using your cell phone, place a call from an outdoor location to confirm that enough signal is present to complete the call. If a weak signal is available at ground level, check the signal strength in your attic or at roof level location where the signal will likely be stronger and where the Signal Antenna can be placed for best performance.

If you can reliably make and receive calls outside your home, then zBoost® can bring the signal into your home.

If only one signal bar is displayed on your cell phone outside, indoor coverage will be limited to one small room. We recommend placing the Signal Antenna outside and/or purchasing a Wi-Ex® upgrade Signal Antenna for increased coverage (see page iv).

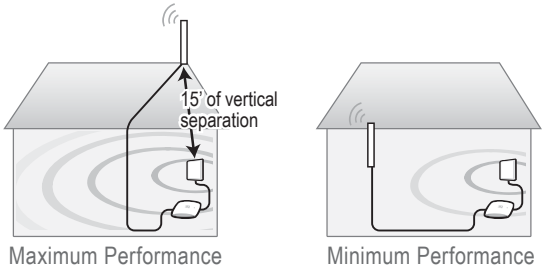
Note

Cell phone signal bars are approximate and vary from phone to phone. The number of bars can fluctuate widely, depending on the location of the phone, the position or angle of the phone, weather, etc. Most cell phone signal meters update every 6 to 10 seconds. An increase of only one bar typically indicates a 4x to 10x signal increase.

Before installing, please note the following important factors in determining your zBoost performance:

- *At least 15 vertical feet is needed between the Signal Antenna (receives the outside signal) and the Panel Antenna (rebroadcasts the signal indoors). Separation less than 15 vertical feet will result in decreased performance. See illustration below.*
- *Keep the Signal Antenna at least 3 feet above any metal.*

See page 5, Setting Up Your zBoost Product, for additional information.



Additional Cable Requirements

Use the provided 50 feet of RG-6 cable to connect the Signal Antenna and the Base Unit. Should you need additional cable length, 15 foot extensions (Part #: **YX030-15w**) are available at www.Wi-Ex.com. RG-6 is also available at many home improvement or electronic stores.

The total cable length should not exceed 65 feet unless you also purchase an upgraded signal antenna (see page iv). A longer cable is helpful only if it allows you to place the Signal Antenna in a location where you measure stronger signal.

Warning

Avoid placing the Signal Antenna near metal such as wiring, A/C ducts, metal siding, truss plates, etc. When connecting the cable to the antenna, run the cable straight down from the antenna. Avoid draping the coax near the antenna.

Grounding the Signal Antenna

If you decide to place the Signal Antenna outdoors, it must be properly grounded. (See page iv for a recommended grounding kit).

The set up must be in accordance with Article 810 of the National Electric Code (NEC). A listed antenna discharge unit must be provided for the lead-in coaxial cable per NEC article 8.10.20 or the shield of the coaxial cable must be permanently and effectively grounded in accordance with NEC article 8.10.21. Please consult a professional installer or electrician for more information.

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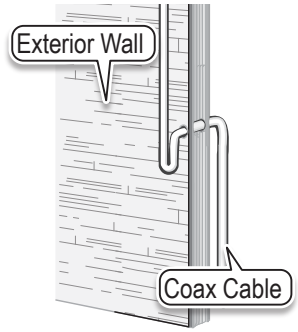
Securing Cable with a Drip Loop

If you place the Signal Antenna outdoors, create a drip loop with the coaxial cable at the point where the cable enters the building through an outside wall. This can be done by twisting and securing the cable into a loop (no less than 4" across) near the entry point. This will help prevent moisture from gathering at entry point and leaking into the building. Consult a professional installer if you need more information.



Power Requirements

The Base Unit can be plugged into a standard 2 or 3 prong 110 VAC receptacle using the Included power supply. The power supply consumes less than 10W (less than 0.2A).

Note

The zBoost Xtreme YX545x base unit MUST only be used with the provided power adaptor. Use of other power adaptors will void the warranty and may damage the unit. Use of other equipment is not FCC approved.

Setting Up Your zBoost Signal Booster

FIRST: Mount the Signal Antenna

Choosing the best location for the Signal Antenna provides the best performance and the largest area of improved signal. Choose a location for the Signal Antenna using your cell phone to determine the area of strongest signal - typically found outside, above the roofline or in an attic. The antenna must also remain at least 3 feet from any metal objects such as pipes, metal siding, A/C unit etc.

Identify the best location for attachment of the mounting bracket – such as an attic cross or main beam. Secure the mounting bracket at the highest possible point.
Position the mounting bracket such that the Signal Antenna will be vertical and attach the Signal Antenna. See "Antenna Bracket Assembly" on page 6 for more information.

Antenna Bracket Assembly

IMPORTANT: Incorrectly mounting the Signal Antenna to the mounting bracket (see figure A) will impede performance. Ensure that the Signal Antenna is properly positioned in the mounting bracket as pictured below.

To mount Signal Antenna to a pole: Attach antenna to pole bracket as pictured. Use U-Bolt to secure bracket to pole and fasten. DO NOT mount to a metal pole.

To mount Signal Antenna to a flat surface: Attach antenna to pole bracket as pictured. Secure bracket to desired surface using provided screws. Use of the Saddle and U-Bolt are not necessary for this option.

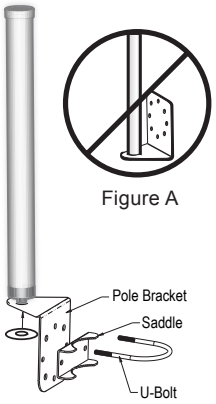
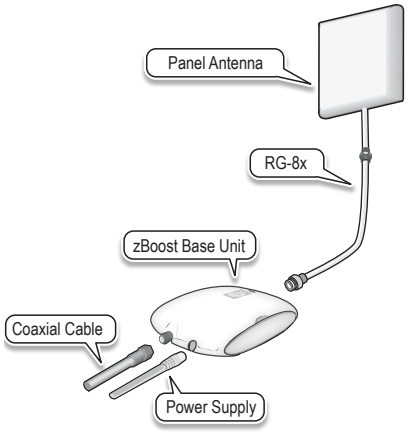


Figure A

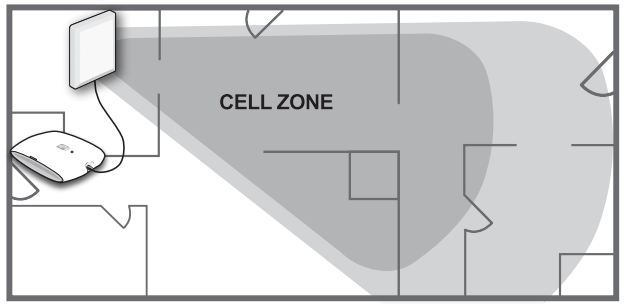
SECOND: Position Base and Panel Antenna

NOTE: The zBoost Xtreme requires at least 15 feet of ***vertical*** separation between the Signal Antenna and the Panel Antenna. Generally, increasing this distance (up to 40 feet) will increase the performance and decreasing the distance will limit zBoost performance.



The Base Unit can be easily mounted on a wall by first removing the orange bracket from the Base Unit and using the provided mounting hardware to affix to wall. Connect the Indoor Panel Antenna to the Base Unit using the provided 10 foot RG-8 coax.

The Panel Antenna should be mounted on a wall facing the direction where increased coverage is desired (See illustration below). Note that signal is broadcasted in a beamwidth of 70° horizontally and 60° vertically from the front of the Panel Antenna. Keep the Panel Antenna off floor and at least 3 feet away from other cords, metal objects or other wireless devices such as wireless routers or wireless access points. The zBoost Xtreme performs best when there are no obstructions between the Panel Antenna and your mobile device.



Signal is emitted in a beam width of 70° horizontal and 60° vertical

THIRD: Run the Coaxial Cable

NOTE: Refrain from securing cable or drilling holes until the system has been tested.

Connect the supplied 50 feet of RG-6 coaxial cable to the base of the Signal Antenna. Run the coaxial cable along a descending pipe or through a wall that that leads closest to the location of the Base Unit. Should you need additional cable length, 15 foot extensions (Part #: **YX030-15w**) are available at www.Wi-Ex.com. Please note: Cable longer than 65 feet is not recommended.

FOURTH: Connect zBoost Base Unit to Power

Connect the zBoost Base Unit to the power supply and plug into a power outlet. When your zBoost system is in place and fully connected, walk throughout your home or office and verify that you are able to reliably place calls. If the signal strength has improved, your zBoost is working.

Remember, coverage varies based on outdoor signal level, building construction, and antenna placement. Coverage in adjoining rooms (next to, above, or below) will be reduced by walls and ceiling/floors.

Upon initial power up, a solid GREEN light should appear indicating normal conditions. If a RED light appears, adjustments may be needed to optimize performance. If you find the increased signal coverage is acceptable, however, no additional adjustments are needed. See “zBoost Base Unit Light Indicators” on page 8) for more information.

Confirm That Your zBoost is Working Properly

Perform the following steps to confirm that the unit is now working properly:

1. Unplug the Base Unit power cord.
2. Turn on your cell phone and check the signal meter.
3. Plug the power cord into the Base Unit.
4. Hold your cell phone about 5 feet from the Base Unit and then turn it on. Wait up to 1 minute for the cell phone to register the signal coming from the Base Unit.

If the signal meter shows improvement, your zBoost unit is working properly.When your zBoost system is in place and fully connected, you should walk throughout the room and see that you are able to reliably place calls.

Remember, coverage varies based on outdoor signal level, building construction, and antenna placement. Coverage in adjoining rooms (next to, above, or below) will be reduced due to walls or ceiling/floors.

Improving Your Coverage Area

Should you desire to improve coverage, you may:

- Relocate the Signal Antenna in order to capture a better signal – higher is usually better and outside is better than inside.
- Increase the distance between the Panel Antenna and the Signal Antenna.
- Purchase an upgrade antenna available at www.Wi-Ex.com.

zBoost Base Unit Light Indicators

At Initial Power Up Only

Solid GREEN	Normal condition at power up.
Slowly Alternating RED and GREEN	zBoost is working, but at reduced performance and coverage due to “non-ideal” setup. Solution: Increase the distance between antenna and amplifier to achieve maximum performance and coverage.
Fast Flashing RED	Indicates insufficient distance between the antenna and the amplifier. The amplifier is operating at significantly reduced coverage. Solution: Increase space between base unit and antenna.
Solid RED	System is receiving signals from either the mobile device or the base station transceiver which are too strong for proper operation. Solutions: ① Move away from receiving antenna with your cell phone. ② Move antenna away from other devices.
Fast Alternating RED and GREEN followed by no light	The amplifier is disabled. Solution: Unplug and repower.

After Initial Power Up

Solid GREEN	Normal condition.
Solid RED	System is receiving signals from either the mobile device or the base station transceiver which are too strong for proper operation. Solution: Please unplug your system. Re-orient your Signal Antenna and/or Base Unit to reduce the excessive signal source. Plug your system back in. If still solid red, call customer support 1-800-871-1612.

Technical Specifications

Product Specifications for zBoost SOHO Xtreme YX545x

PCS band	
Frequency	Uplink: 1850 to 1910 MHz Downlink: 1930 to 1990 MHz
System Gain	69dB
PCS band supported	A, D, B, E, F, C
Networks	CDMA, GSM, GPRS, EDGE, EVDO, 1xRTT, UMTS, HSPA, 3G

Cellular band	
Frequency	Uplink: 824 to 849 MHz Downlink: 869 to 894 MHz
System Gain	66dB
CEL band supported	A, B, A’, B’
Networks	CDMA, GSM, GPRS, EDGE, EVDO, 1xRTT, UMTS, HSPA, 3G

General	
Power Consumption – Power Supply Current	3W standby; 7W max signal - 5.0VDC, 2.0A Max
Wall Supply Input ; Voltage	100-240VAC, 50-60 Hz
System Certifications	FCC Parts 15 & 24 (PCS), Parts 15 & 22 (CEL), Industry Canada
Base Unit Size and Weight	5” x 7” x 1.25” – 9 oz.
Operating Conditions	Indoor Use Only (40° - 105° F)

This product uses patented technology to protect the carrier network

Product is covered by patent US 7,706,744. Other U.S. and foreign patents pending.

Frequently Asked Questions

What can I expect my cell phone signal range and strength to be inside my home or office?

The closer you are to the base, the stronger the signal. This will vary with different conditions. Some of the conditions that will affect the improved coverage area are signal strength outdoors, the type of building materials in the home, the placement of the unit and the antenna's proximity to cellular towers.

You can expect that your indoor coverage will be improved. You will be able to make calls where you couldn't before. The degree of improvement will depend upon many factors. The intent of zBoost® products are to bring outside coverage inside. Just as the signal bars move up and down when outside, the boosted signal will fluctuate in a similar fashion.

Is a cellular phone signal booster the same as a wireless router; will it help my WiFi signal?

The Wi-Ex® unit will not help your WiFi service. This unit is designed to work with wireless PCS and Cellular phones and devices. The WIFI in your home or office operates on a different frequency.

Is your product available for international use?

Yes, we have products that work on European frequencies. Our zBoost® YX520-I Dual band works on 900MHz and 1800MHz.

We also sell zBoost ONE YX400-U for UMTS/HSPA devices on the 2100MHz frequency, a frequency used for voice and data overseas.

Why isn't my cell phone indicating more signal with more bars?

You may not always observe more bars that gain on your signal meter because of the signal spreading out from the antenna. If your phone has a dB meter, 3dB is a significant increase of 2x, 6dB is 4x, and 10dB is 10x. On a four bar phone, one "bar" equals about 10dB.

The increase in signal you will see depends upon:

- The level of signal at the Signal antenna (outdoor)
- The care of the antenna placement (two feet away from metal, adequate antenna separation [15 feet recommended])
- The signal already present inside (related to building losses)
- The distance of your phone/device from the Panel Antenna (signal spreads or diminishes rapidly with distance.)

There are usually several cell phones in use at one time in my home, will your product boost all of our signals simultaneously?

The zBoost SOHO products are designed to cover multiple signals simultaneously and will allow multiple users to operate at the same time.

Does the zBoost® work if you have no bars?

No, if no signal is present outdoors zBoost products will not work for you. Also, keep in mind if your best signal is 1 bar at the Signal Antenna, your coverage will be limited to a small room. You could improve that with an upgraded antenna. (See page iv).

zBoost® SOHO Xtreme YX545x User Guide

Warranty Information

Limited 1 Year Warranty

Register your product at www.Wi-Ex.com

Wi-Ex® warrants every Wi-Ex® product to be free from defects in material and workmanship under normal use for the warranty period of one year.

Who Is Covered?

You must have proof of purchase to receive warranty service. A sales receipt or other documentation showing the product purchased and the purchase date is considered proof of purchase. This limited warranty extends only to the original consumer purchaser or any person receiving the product as a gift from the original consumer purchaser and to no other purchaser or transferee. This warranty does NOT extend to commercial users.

What is Covered?

Warranty coverage begins the day you purchase the product. For one year from the original date, the Wi-Ex® Cell Phone Signal Booster will be repaired or replaced with a new, repaired, refurbished or comparable product (whichever is deemed necessary by Wi-Ex®) if it becomes defective or inoperative. The exchange will be made without charge to you for parts and labor. You will be responsible for the cost of shipping to the location designated by Wi-Ex®.

All products, including replacement products, are covered only for the original warranty period. When the warranty on the original product expires, the warranty on the replacement product also expires.

What is Excluded?

Your warranty does NOT cover:

- Labor charges for set up of the unit.
- Product replacement because of misuse, accident, lightning damage, unauthorized repair or other cause not within the control of Wi-Ex®.
- Incidental or consequential damages resulting from the product. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.
- Any modifications or other changes to the product, including but not limited to software or hardware modifications in any way other than as expressly authorized by Wi-Ex® will void this limited warranty.
- Product that has been modified or adapted to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.

Make sure you keep…

Please keep your sales receipt or other document showing proof of purchase. Attach it to this User Guide and keep both nearby. Also, keep the original box and packing material in case you need to return your product.

Before requesting repair service…

If red light is on, system is receiving signals from either the mobile device or the base station transceiver which are too strong for proper operation. Please unplug your system. Re-orient your Signal Antenna and/or Base Unit to reduce the excessive signal source. Plug your system back in. If still solid red, call customer support 1-800-871-1612.

To get warranty service…

Warranty service will be provided by Wi-Ex®. If you believe you need service for your unit, contact Wi-Ex® at 1-800-871-1612 or support@wi-ex.com. A representative will go through a diagnostic checklist with you. If it is determined that the product needs to be returned for service or exchanged, you will receive a return merchandise authorization (RMA) number. The representative will give you complete shipping details. Do not return products to Wi-Ex® without a Return Authorization Number (RMA).

To get out of warranty service…

To obtain out of warranty service, contact Wi-Ex® at 1-800-871-1612 or support@wi-ex.com for information on the possibility of any costs for repair or replacement of out-of-warranty products.

Reminder

Record the model and serial number found on the product below:

Model #:_____

Serial #: _____

Purchase Date: _____